REMARKS

The Examiner is thanked for the careful review of the application as set forth in the outstanding office action. Reconsideration of the application in view of the foregoing amendments and the following discussion is respectfully requested.

The Rejection of the Specification and Claims under 35 USC 112.

The specification stands objected to under 35 USC § 112, second paragraph, as failing to adequately teach how to make and/or use the invention. The objection is respectfully traversed, on the ground that the specification teaches a person skilled in the art to make and use the claimed invention without undue experimentation.

In addressing the grounds for the objection, it is well to consider the following principles:

A. The "invention" that must be enabled is that defined by the claims of the patent application. (Phillips Petroleum Co. v. U.S. Steel Corp., 6 USPQ 2d 1065 (D.Del. 1997), affirmed, 9 USPQ 2d 1461 (Fed.Cir. 1989).)

B. A patent specification is not addressed to lay persons, but to those skilled in the art; it must be comprehensible to them, even though the unskilled may not be able to gather from the specification how to make or use the invention. The level of skill in the art may be quite high. (See, e.g., Gould v. Mossinghoff, 229 USPQ 1, 14 (D.D.C. 1985), affirmed in part, vacated in part, and remanded sub nom. Gould v. Quigg, 3 USPQ 2d 1302 (Fed.Cir. 1987).

C. There is some inconsistency between the positions that the specification is not enabling and the

position that the invention would have been obvious to one of ordinary skill in the art. Webster Loom Co. V. Higgins, 105 U.S. 707 (1880); see also Patents, Donald S. Chisum, Vol. 2, § 7.03[1] at pages 7-16 and 7-17.

Turning now to the particular grounds of the Section 112 rejection, the Examiner apparently asserts that the specification does not support the encoder unit (16), control (14) and microprocessor (142):

> Essential subject material has not been provided by incorporation by reference to U.S. patents and by submission of software program in order for the functionally disclosed control unit 14 and microprocessor 142 to have the claimed capabilities.
>
> The encoder unit (16), control (14), microprocessor (142) are not specified as to known commercial design product or the like. Absent is essential software specification to provide basis for many of the claimed functional features, those the M-bit, N-bit code functions, the microprocessor operations and means, the arming/disarming functions and access functions, the programming mode and receiving mode functions, and arming/disarming functions.
>
> For the claimed features to have basis in the specification, detailed description of control unit 14 and microprocessor 142 (a software program) should be specified.

It is first noted that the M-bit, N-bit code feature is not at issue in this case, since Claim 97 has been canceled without prejudice. (Applicant notes that he does not concede that the specification does not support this feature; rather he is simply simplifying the issues in this case without prejudice to his right to coverage on the subject matter of this canceled claim in another application.)

Regarding the encoder 14, FIG. 3 shows some detail of the outputs from the encoder. The application at page 26 provides additional detail ("The transmitter 10 generally comprises the encoder 16, as aforesaid, and which may be suitably encoded by the manufacturer so that the user is not required to encode the same. For this purpose, small switches may be provided on the encoder, or other means known in the art, could be provided on the encoder for specifically generating an encoded signal...). See also page 38 ("Thus the user does not have to actuate any predetermined number of switches or other input means, such as scratch a circuit pattern on a printed circuit board in order to generate the encoded signal.")

Encoders of the type used in applicant's described embodiment were well known in the art at the time of his invention. The Angotti declaration establishes this fact at paragraph 14, for example, and identifies one exemplary commercially available IC (the Supertex ED9 device).

For these reasons, applicant abundantly met the requirements of Section 112 in regard to the description of the encoder 14. An applicant is simply not required to set out in his application that which is well known to those skilled in the art at the time of his invention.

Turning now to the control unit 14 and microprocessor 142, it is noted that the specification at page 25 describes the control unit 14 as microprocessor based, i.e., the control unit 14 described in the specification includes the microprocessor 142.

That microprocessors and microprocessor-controlled systems were well known to those skilled in the art at the time of applicant's invention has been established by the evidence of record herein. See, for example, the Drori declaration at paragraph 4, and the Angotti declaration at paragraphs 11 and 12. There is no requirement or need to specify a particular commercial microprocessor device in

the specification. There were many available that were suitable for the purpose, any one of which could readily be adapted to a particular application.

The Examiner has apparently taken the position that an application for a microprocessor controlled system include a software program in the form of a flow chart or code in order to comply with Section 112, first paragraph. The Examiner has cited In re Pater and Wei, 162 USPQ 541, as holding that "...'Apparatus and process claims broad enough to encompass operation of programmed general-purpose digital computer are not necessarily unpatentable; once a program has been introduced.' Applicant's microprocessor with a memory is a digital computer. Therefore, its functions can only be supported by a disclosed program. Such a program was not in the originally filed disclosure." Applicant respectfully disagrees.

The Pater case did not involve the issue of enablement under Section 112, first paragraph, but rather questions of statutory subject matter under Section 101 and definiteness of claim language under Section 112, second paragraph, among other questions. The specification described an analog implementation, and then made the statement that a digital computer may represent the instrumentality preferred for carrying out the invention in most instances. (id, 162 USPQ at page 544, footnote 18). The passage cited by the Examiner apparently appears in a different form at 162 USPQ 549-550, footnote 29. This footnote cannot be taken as a blanket requirement that in all microprocessor controlled inventions, the disclosure is non-enabling unless a program is set forth in a flow chart or code form. The Court, for example, reversed the rejection of an apparatus claim 10 broad enough to read on a digital computer implementation. Moreover, the art of microprocessors and use of same to control electronic systems has in essence been introduced and matured in the 26 years since

the Prater case was decided. The level of skill in art has advanced tremendously, as is supported by the evidence of record in this case. See, for example, the Androtti and Drori declarations.

Moreover, there is no legal requirement that a program must be set out in flow chart or code form in order for a microprocessor-controlled invention to be enabled. This is exemplified by the Pinnow and Sanders et al. patents cited by the Examiner in support of the obviousness rejection of the claimed invention. Pinnow includes a signal receiving unit which includes a comparator-processor (see column 3, lines 32-33) yet no processor flow chart or code is disclosed. Sanders et al. discloses a microprocessor controlled vehicle control and security device, yet no program is disclosed by way of flow chart or code. (Sanders et al. also includes an encoder 23 in FIG. 2 without providing a schematic of the device.) Even the Aydin reference patent, which apparently issued on a 1976 application, shows a microprocessor embodiment without identifying a particular device and with only a very simple flow diagram.

The Angotti declaration has been submitted, and demonstrates that one skilled in the art as of the filing date could make and use the invention without undue experimentation. The Examiner asserts that the material shown in Angotti figures C-1 to A-5 would appear to be necessary to support one embodiment in the present disclosure, that such is not in the disclosure, and that the declaration suggests the incompleteness of the disclosure. Applicant respectfully disagrees.

The assertion that the material in the figures of the Angotti declaration would appear to be necessary to support one embodiment is not supported with any reasoning. The declaration is from one skilled in the art who, from a reading of the application disclosure and his skill in the art of microprocessor-controlled systems at the time the

application was filed, was able to generate the flow diagrams within a comparatively short time. This evidence is uncontroverted. It necessarily follows that applicant has met his burden of describing his invention with sufficient detail that one of ordinary skill in the art could make and use the invention without undue experimentation.

The Examiner has further asserted that "the description of the elements and programs in issue in the original disclosure and their interaction in the system can, in general, only be described as conceptual." Applicant respectfully disagrees. The specification is lengthy and replete with details of the functions and circuits involved in an exemplary embodiment of the invention. The drawings with the original specification correspond in the level of detail to schematics of an actual device put into commercial production which embodies the invention. See Declarations of Ze'ev Drori and Mac Amirpoor filed herewith. The CCPA opinions cited by the Examiner support the patentability of applicant's invention, and do not support that of the Examiner.

In re Knowlton, 178 USPQ 486 (CCPA 1973), cited by the Examiner, does make the statement that the invention claimed must be described somewhere in the application. But the CCPA reversed a Section 112 rejection which had been based on insufficient disclosure. The reversed rejection had been based on the examiner's rational that the specification was devoid of disclosure of apparatus which would comply with the claims, the examiner seeming to imply that in order to satisfy the statute the applicant's disclosure would not only have to include a detailed description of the circuits contained in the proprietary computer referred to in applicant's specification, but would also have to include a detailed description of the physical state such circuits would be placed in by the disclosed program. The Board of Appeals had affirmed the

rejection, on the premise that a programmed general purpose computer bears no discernable apparatus relationship to a specially constructed machine. (In re Knowlton, 178 USPQ at 493). The CCPA reversed:

> It is readily apparent from indications in the present specification and from the level of the art established by the references of record, that those skilled in the art to which the present application is directed would know what types of hardware are designated by these terms and further that the necessary hardware was available. Most important, the disclosure in this case does not merely consist in a sketchy explanation of flow diagrams or a bare group of program listings together with a reference to a proprietary computer on which they might run. Rather, the disclosure before us goes into considerable detail in explaining the interrelationships between the disclosed hardware elements.... True, appellant did not give a description in minute detail of the circuitry which results when his program is loaded into the computer.... However, it must be borne in mind that the disclosure need not only be full, clear and exact to satisfy the statute, it must also be concise, and that the disclosure is directed to those skilled in the art. The amount of precision necessary in any given case is always a matter of degree. Absent special circumstances it is not required that every nut, bolt and rivet actually used in mechanical inventions be described, or, in chemical cases, that the electron orbital patterns for a claimed compound be set forth. Appellant contends that his specification is sufficient to place the skilled worker in possession of the claimed inventions. The level of skill in the art which is indicated by the record

before us supports that contention." (In re Knowlton, 178 USPQ at 493-494)

In re Scarbrough, 182 USPQ 298 (CCPA 1974), also cited by the Examiner, also supports applicant's position. In that case, the applicant did not supply any evidence in the form of affidavits to show that one skilled in the art would know whether the circuit elements known in the art would be adaptable for use in applicant's system with only a reasonable amount of experimentation. The CCPA considered that the applicant had been put to his proofs that the disclosure would be enabling to a person skilled in the art. The applicant's failure to supply the evidence backing up the argument of counsel was deemed fatal to the appeal. ("Argument of counsel cannot take the place of evidence lacking in the record," In re Scarbrough, 182 USPQ at 302). Here, applicant has met the challenge by submitting the declarations of Angotti and Drori, which establish that at most only a reasonable amount of work would be required by one skilled in the art to practice the invention at issue here.

The objection to the specification under 35 USC § 112, second paragraph, should therefore be withdrawn.

Claims 95-103 stand rejected under 35 USC § 112, first paragraph, for the reasons set forth in the objection to the specification. The rejection should be withdrawn for the same reasons discussed above.

The Rejection of Claims 95-103 under 35 USC § 103.

The claims stand rejected under 35 USC § 103 as being unpatentable over Pinnow in view of Aydin, Tolson and Sanders et al. The rejection is respectfully traversed. Applicant does not agree with the Examiner's characterization of the teachings of the cited references.

Claims 95-103 are drawn to an electronically programmable remote control vehicle security system, comprising a precoded remote control transmitter for generating and transmitting a non-user-programmable, digitally encoded radio frequency signal representative of a multiple-bit transmitter code, the transmitter code being precoded so that a system user is not required to encode the transmitter or know the transmitter code. The claims further include a radio frequency receiver responsive to the radio frequency transmitter signal to provide receiver signals indicative of the transmitter code, and a system control unit disposed within the vehicle and having control over the vehicle antitheft apparatus, the control unit comprising: a digital memory; programming apparatus responsive to the receiver signals for recording in the memory only during a programming mode the transmitter code as a signature control signal for arming or disarming the vehicle antitheft apparatus, operating apparatus operable during a system security operating mode and responsive to the receiver signals for comparing the receiver signals to the recorded signature control signal and arming the vehicle antitheft apparatus upon a first receipt and recognition of receiver signals corresponding to the signature control signal, and for disarming the antitheft apparatus upon a second receipt and recognition of receiver signals corresponding to the signature control signal.

None of the references of record describe this invention, including the feature of a transmitter which transmits a non-user-programmable signal (Claim 95) or which is encoded by the manufacturer (Claim 99). Indeed, the combination of Pinnow, Tolson and Aydin has already been addressed in the decision on appeal in the application resulting in U.S. Patent 5,146,215. The entire thrust of Pinnow is that the user encode the transmitter. (This is

so even of the "inexpensive unit having a minimum of features" described at column 6, lines 22-25.)

As for Aydin, the key 15 is a card key, encoded with visible punch holes or the like which are read by a card reader. The codes are clearly visible to the user or anyone else having physical custody of the card. Whether the user programs the card or not is not addressed by the reference, nor is there any description of how one would implement the key 15 with an RF transmitter.

From this, the Examiner's assertion that "one of ordinary skill in the art would be motivated to use a minimum feature transmitter as suggested in Aydin in Pinnow" is the product of hindsight reconstruction. Only applicant's disclosure provides the missing teaching.

It is further noted that, regarding the invention of Claim 98 for example, a plurality of different transmitters with different transmitter codes can be used to arm or disarm the security system. In contrast to this, Aydin describes a hotel system wherein each hotel guest sharing a room must also share the same card code. Consequently, if a card is lost or stolen, all card keys must be changed to a new code, since once a new code is programmed another person who shares the room has no choice but also to have his/her card changed. This could cause great inconvenience if the second person returns separately to the room to find that his/her card no longer opens the door. In contrast to this, if one remote control transmitter is lost, only the user of that remote control needs to obtain a new transmitter. None of the other users are affected.

The Examiner has included Sanders et al. in this ground of rejection, apparently for the purpose of showing that a wireless unit could be used to arm or disarm a security device. Applicant does not deny that, as of the effective filing date of this application, remote control vehicle security systems were known, which were armed or

disarmed by the remote transmitter. To the extent that the Examiner may seek later to rely on Sanders for additional teachings, however, applicant would point out that the Drori and Amirpoor declarations establish prior invention in the United States of a vehicle security system embodying the subject invention.

The office action does not address the limitations of the dependent claims. These claims stand allowable as patentably distinct from the invention of Claim 95. For example, Aydin teaches away from the use of a program switch accessible to the user to put the system in a programming mode. Instead Aydin to reprogram the code requires the existing code be entered. None of the cited references teach or suggest the invention of Claim 99, wherein the remote control transmitter is encoded with the transmitter code by the manufacturer thereof.

The Drori declaration (Paragraph 3) further establishes that the invention has been commercially successful, in that the assignee has sold over a million remote control auto security systems with the electronically programmable remote control feature. This outstanding commercial success is powerful evidence that this invention would not have been obvious to those of ordinary skill in the art when the invention was made.

For these reasons, applicant respectfully requests that the outstanding rejection under Section 103 be withdrawn.

Double Patenting Rejection.

Claims 95-103 stand rejected under 35 USC § 101 as claiming the same invention as that of Claims 1-10 of U.S. Patent 5,146,215. The rejection is traversed.

In order for double patenting prohibited by Section 101 to exist, the issued patent and the pending application must claim identical subject matter. MPEP § 804.

U.S. Patent 5,146,255 does not claim subject matter which is identical to the claimed subject matter at issue in this application. Claim 95 includes an operating apparatus operable during a system security operating mode and responsive to the receiver signals for comparing the receiver signals to the recorded signature control signal and arming the vehicle antitheft apparatus upon a first receipt and recognition of receiver signals corresponding to the signature control signal, and for disarming the antitheft apparatus upon a second receipt and recognition of receiver signals corresponding to the signature control signal. None of Claims 1-10 of the '255 patent include this limitation.

Further, claims of the '255 patent include limitations not found in the pending application claims. These include, by way of example only, the cooperation of the transmitter and receiving means to form a one-way radio frequency signal transmission link for communicating signals only from the transmitter to the receiver (Claim 1 and other claims); automatic termination of the program mode after a predetermined time delay from receipt of the last transmitted encoded signal during the program mode (Claims 1 and 5); the control unit is operable in the program mode to record a plurality of different transmitter encoded signals of different code bit lengths as valid signature control words, and operable in the operating-receive mode to decode and compare the decoded signals of different bit lengths to each of the recorded signature code signals (Claim 8); and a multi-channel remote control transmitter as in Claim 10.

Since the '255 patent and the pending claims are not directed at identical subject matter, there is no prohibit-

ed double patenting involved. This rejection should be withdrawn.

New Dependent Claims 104-106.

New Claim 104 further defines Claim 95 in that the operating apparatus is operable to perform a further function in addition to disarming the antitheft apparatus upon the second receipt and recognition of receiver signals corresponding to the signature control signal. Claim 105 further defines the invention of Claim 104 in that the further function includes unlocking a vehicle access location lock. The cited references do not teach or suggest such a vehicle security system.

New Claim 106 further defines the vehicle security system of Claim 95 as further comprising apparatus for putting the system control unit in the programming mode without the use of the remote control transmitter code. This further distinguishes from the Aydin system, wherein the card key is used to allow a new code to be entered.

In view of the foregoing amendments and discussion, applicant submits that the application is in condition for allowance. Such favorable action is solicited.

Respectfully submitted,

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